MEDIA CONVERTER TECHNICAL SPECIFICATIONS

Environment	Temperature:	0-40°C (32° to 104° F)
	Humidity	10-90%, non condensing
	Altitude	0-10,000 feet
Warranty	Five years	

Compliance Information
UL Listed
C-UL Listed (Canada)
CISPR/EN55022 Class A

FCC Regulations
This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

Canadian Regulations
This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.

European Regulations
Warning
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Trademark Notice
All registered trademarks and trademarks are the property of their respective owners. 33047.B

TRANSITION networks

Minneapolis, MN 55344 USA

10Mb/s Ethernet™ Single Mode/Multimode Slide-In-Module Media Converter

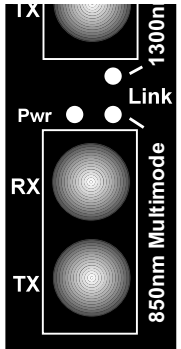
C/F-SM-MM-05

USER'S GUIDE

The TRANSITION Networks slide-in-module 10Mb/s Ethernet media converters, C/F-SM-MM-05, which is designed to be installed in the TRANSITION Networks Media Conversion Center, E-MCC-1600, connects *1300nM singlemode* fiber-optic cable to *850nM multimode* fiber-optic cable.

The F-SM-MM-05 media converter provides an ST fiber type RX (receive) and TX (transmit) connector to *1300nM singlemode* fiber-optic cable and an ST fiber type RX and TX connector to *850nM multimode* fiber-optic cable. Fiber's low signal loss and high resistance to radio frequency noise allow extended distances between devices (up to 2 kilometers for multimode, up to 20 kilometers for singlemode).

The media converter functions in half-duplex mode or, when connected to devices capable of full-duplex connectivity, in full-duplex mode.



Status LEDs

P(o)w(e)r	Illuminated green LED indicates connection to external AC power.
Link	Steady green LED indicates that fiber link is connected properly.

Installing Slide-In-Module(s)

CAUTION: Wear a grounding device and observe electrostatic discharge precautions when installing Media Converter Slide-in-Module(s) in the 16-Slot Media Conversion Center. Failure to observe this caution could result in damage to, and subsequent failure of, the Media Converter Slide-in-Module(s).

NOTE: Media Converter Slide-in-Modules can be installed in any installation slot, in any order.

To install the Media Converter Slide-in-Module in the E-MCC-1600 chassis:

1. Remove Media Converter Slide-in-Module protective plate from selected installation slot by removing two screws that secure plate to front of E-MCC-1600. Retain one installation screw.
2. Carefully slide Media Converter Slide-in-Module into installation slot, aligning Media Converter Slide-in-Module with installation guides.

   NOTE: Ensure that the Media Converter Slide-in-Module is firmly seated against the backplane.
3. Secure Slide-in-Module by installing retained installation screw.

Troubleshooting

If the singlemode to multimode fiber-optic media converter fails, ask the following:

1. Is the power LED on the media converter illuminated?

   NO
   - Is the Slide-In-Module properly connected to the Media Conversion Center chasis backplane?
   - Is the Power Supply Module properly connected both to the Media Conversion Center chasis backplane and to the AC outlet?
   - Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.

   YES
   - Proceed to step 2.
2. Is the multimode fiber Link LED illuminated?

   NO
   - Check fiber cables for proper connection.
   - Verify that TX and RX cables on media converter are connected to RX and TX ports, respectively, on the other device.
   - Refer to Tech Tips available at: http://www.transition.com
   - Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.

   YES
   - Proceed to step 3.
3. Is the singlemode fiber Link LED illuminated?

   NO
   - Check fiber cables for proper connection.
   - Verify that TX and RX cables on media converter are connected to RX and TX ports, respectively, on the other device.

   YES
   - Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.

FIBER OPTIC CABLE CONNECTIONS

- Be certain that the correct **mode and wavelength** fiber cable is used BOTH for single-mode and for multimode fiber cable installations.
- Verify that TX and RX cables on media converter are connected to RX and TX ports, respectively, on the other device.

NOTE: This product is NOT a repeater. Therefore, maximum distances depend on specific characteristics of the installation. The full distances of BOTH singlemode and multimode fiber shown MAY NOT be supported *in the same installation*.

Fiber Optic Cable Specifications

SINGLEMODE

Fiber Optic Cable Recommended:	9/125 µm singlemode fiber
Fiber Optic Transmitter Power:	Average: -16 dBm
Fiber Optic Receiver Sensitivity:	Average: -33 dBm
Wavelength:	1300nM
Bit error rate:	$\leq 10^{-9}$
Maximum Cable Distance:	5-20 kilometers

MULTIMODE

Fiber Optic Cable Recommended:	62.5 / 125 µm multimode fiber
Optional:	100 / 140 µm multimode fiber
	85 / 125 µm multimode fiber
	50 / 125 µm multimode fiber
Fiber Optic Transmitter Power:	Average: -15 dBm
Fiber Optic Receiver Sensitivity:	Average : -33 dBm
Wavelength:	850nM
Bit error rate:	$\leq 10^{-10}$
Maximum Cable Distance:	2 kilometers (6,600 feet)